

9. LEAPFROGGING IN CATTLE EGRETS (*BUBULCUS IBIS*)

During fieldwork in Kanha Tiger Reserve (Mandla District, Madhya Pradesh; 1980-82) cattle egrets (*Bubulcus ibis*) were commonly seen feeding alone, in loose flocks, or in association with domestic and wild ungulates. However, during a two week spell of the hot weather, dense communally feeding flocks were observed to move forwards with a rolling motion, termed 'leapfrogging' by Meyerriecks (1960), which does not appear to have been recorded for this species in Asia (Ali & Ripley 1968, Cramp & Simmons 1977).

Between 14-28 May 1980 large cattle egret flocks (50-70 birds), mostly in breeding plumage, were frequently observed from Upper Rest House varandah, Kanha Village, 'leapfrogging' in the early morning, whilst foraging in sal (*Shorea robusta*) forest litter. On one occasion 70 egrets, in a flock with inter-individual distances of half to one metre progressed linearly forwards for 75-100 m across a 20 m front. Movement of the flock was accomplished by rear birds flying forwards in semi-synchrony and landing about 1 m in front of the leading birds. The egrets thus exposed at the rear flew forwards, in turn, to become the temporary leaders. This rolling flock motion was accompanied by considerable rustling of the litter and frequent pecking and lunging at disturbed prey, probably orthoptera and *Mabuya* skinks, which occur at high density among the leaves. The flock feeding was terminated within 15 minutes by dispersal of the birds. Initiation of the rolling flock was not observed. Similar behaviour was noted by Meyerriecks (1960) for cattle egrets feeding

on pasture in Florida and by R. Lamprey (pers. comm.) in Kenya.

The leapfrogging birds may have higher feeding rates, in comparison to those foraging alone or in loose flocks, when feeding on dense prey, as a result of mutual disturbance and exposure of food items. As the orthopteran and lizard prey flee forwards from a disturbance, 'leapfrogging' may arise from the rear birds of a dense flock flying forwards from the depleted food patches to the band of conspicuous moving prey in front of the flock, i.e. there may be strong competition to be in the front rank. The occurrence of leapfrogging only during May 1980 may have been related to the effects of this unusually dry month on food availability. Leapfrogging might be expected to be frequent among flock feeding birds whilst foraging on mobile, densely packed prey. However, Murton & Issacson (1962) reported similar behaviour in the granivorous wood pigeon (*Columba palumbus*) feeding in stubble and clover. In this case leapfrogging may have arisen as anti-predator behaviour; birds at the rear of the flock being more vulnerable to predation than those at the front.

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DEPARTMENT OF ZOOLOGY,
SOUTH PARKS ROAD,
OXFORD, ENGLAND,
November 9, 1984.

PAUL N. NEWTON

MISCELLANEOUS NOTES

REFERENCES

ALI, S., & RIPLEY, S. D. (1968): Handbook of the birds of India and Pakistan. Vol. 1. Oxford University Press, Bombay.

CRAMP, S., & SIMMONS, K. E. L. (1977): Handbook of the Birds of Europe, the Middle East and North Africa. Oxford University Press, Bombay.

MEYERIECKS, A. J. (1960): Success story of a pioneering bird. *Nat. Hist.* 69: 46-57.

MURTON, R. K. & ISAACSON, A. J. (1962): The functional basis of some behaviour in the wood pigeon *Columba palumbus*. *Ibis*. 104: 503-521.

10. INVASION OF WHITE STORKS (*CICONIA CICONIA*) IN KACHCH (KUTCH), GUJARAT

Spotting White Storks numbering from 2 to 20 along jheels or heavily watered agricultural fields or gram fields is a common feature. Besides flamingos and Demoiselle cranes, a flock of over 25 of other big birds is rarely seen in the Western part of India.

I, however, had two occasions to see large congregations of White Storks. On 22-01-1984, when I was organizing a census of cranes in the Kachch (Kutch) area, at Vandhai pond in Bhachau Taluka of Kachch district, I suddenly came across a large flock of White Storks. This was disturbed by my sudden appearance. All the birds flew up and spiralled upward above the pond to a great height for the next 15 minutes. The exact number then counted was 148.

The second occasion came more recently. On 02-12-1984 when I had planned to visit the famous Dhand area located near the desert

border of the Great Rann of Kachch with Shri H. L. Lalka, Dy. Conservator of Forests. Because of the late rains the entire Dhand was still marshy and supported a heavy growth of reeds and rushes 60 to 90 cm tall.

This somewhat semi dried area with jheels has become an ideal site for White Storks and Demoiselle cranes. It is perhaps one of the biggest congregating grounds of White Storks and to my astonishment the number counted by us at one time in a limited area which was visible to us was 904. From the flocks flying overhead the approximate number of White Storks in the Dhand would probably be over 3000. The number of Demoiselle crane in this could not have been less than 10000.

I do not know whether such a large congregation of White Storks has been observed at one site anywhere in India.

CONSERVATOR OF FORESTS,
KACHCH CIRCLE,
BHUJ,
February 10, 1985.

A. A. VAIDYA

11. RISE IN GLOBAL MEAN SEA LEVEL HAS IT AFFECTED THE FLAMINGO BREEDING GROUNDS ?

Ornithologists have been baffled as to why the Flamingos have not been breeding since

1977 in their traditional breeding grounds in the Great Rann of Kachch at Sindalbet in